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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/052,695
Filing Date: January 18, 2002
Appellant(s): GEAGHAN ET AL.

3M INNOVATIVE PROPERTIES COMPANY
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 15 November 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 19, 20 and 22-36 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6,498,590	Dietz	12-2002

5,815,141 Phares 9-1998

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 19, 20 and 22-36 are rejected under 35 U.S.C. 103(a). This rejection is set forth in a prior Office Action, mailed on 18 May 2004, and as follows:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 19, 20 and 22-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz et al. 6,498,590 B1 in view of Phares 5,815,141.

In regard to claims 19 and 22, Dietz et al. discloses an invention similar to that which is claimed in claims 19 and 22. See rejection of claim 19 in Paper No. 8, which is as follows, for similarities:

In regard to claim 19, Dietz et al. discloses a system for determining information related to a touch on a touch sensor. The system comprises a first user contact point separate from the touch sensor. The contact point is a user's chair. See column 3, lines 10-14, disclosing that the "chairs [see figure 1] 121-122...include conductive parts...electrically connected to individual receivers."

Dietz et al. further discloses that the first user contact point is driven with a first signal. See column 2, lines 26-28, disclosing, "Receivers are capacitively

coupled to different users, and configured to receive the uniquely identifiable signals. Also, the touch on the touch sensor transfers at least a portion of the first signal to the touch sensor. See column 2, lines 9-11, disclosing, "When a user touches near a particular antenna, the transmitted signal is capacitively coupled to that user. If the user is sitting...on a conducting electrode, the signal will also be capacitively coupled to that electrode." Also see column 2, lines 56-59, disclosing that "a tabletop 101...is fitted with conductive rows 102 and columns 103 of touch sensitive pads 105...[which] act as antennas." In this way, the tabletop, or plurality of antennas, is the touch sensor.

Dietz et al. further discloses that the touch sensor is configured to use the transferred first signal to determine information related to the touch on the touch sensor. See column 2, lines 46-52, disclosing that the invention of Dietz et al. "provides a touch sensitive system that enables multiple users to simultaneously touch a surface, and to associate the location of each touch or multiple simultaneous touches with a specific user. Our touch system capacitively couples a signal between locations on the touch surface and users so that unique touched locations can be identified with specific users."

Note also in column 2, lines 13-16, that "the system can also work in reverse, with the table being an array of receiving antennas and the user coupling signal from a unique transmitter in a chair". Thus, the signal can be transferred from the user contact point to the touch sensor or from the touch sensor to the user contact point.

Dietz et al. does not disclose a touch sensor switch electrically connected to the touch sensor, a user contact point switch electrically connected to the first user contact point, and a power source, wherein the touch sensor switch and the user contact point switch are further electrically connected to the power source, wherein the touch sensor switch or the first user contact point switch must be closed in order for the system to determine information related to the touch.

In regard to claim 19, Phares discloses a touch system with multiple selectable touch regions. Each of the touch regions is connected to a switch. See figure 2, depicting an embodiment with 2 such regions. Thus, Phares discloses two separate touch regions that are understood to constitute a touch sensor and a user contact point. Each of these regions is electrically connected to a switch. Also see column 3, lines 14-19, disclosing, "at least one of the separate regions can be made sensitive and other regions made insensitive through the utilization of switching means. Thus, one or more regions can be made insensitive...when activation is desired only in the selected region of the touchscreen."

In regard to claim 22, see column 4, line 65 to column 5, line 2, in which Phares discloses that a closed switch causes an activation of a touch area, while an open switch makes the touch area inactive.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Dietz et al. by electrically connecting each of the first user contact point and the touch sensor to a switch and making such regions active with the close of respective switches as taught by Phares. One would

have been motivated to make such a change based on the teaching of Phares that such utilization of switching means is beneficial "when activation is desired only in the selected region of the touchscreen." Also, the closing of a switch to cause some activation is common and consistent with conventional use of switches. In regard to the power source connected to the switches, it is inherent that any type of electrical switch requires a power source to be operable.

3. In regard to claims 20, 23-29 and 31-34, see previous rejection of claims 20 23-29 and 31-34 in Paper No. 8, which are as follows:

a. In regard to claim 20, Dietz et al. discloses that a user touches both the touch sensor and the first user contact point to transfer the first signal. See rejection of claim 19. Note that a user touches the first user contact point upon sitting in the chair. The first signal is transferred when a user is touching the first user contact point and the tabletop, or touch sensor.

b. In regard to claim 23, Dietz et al. discloses that the information related to the touch includes touch position on the touch sensor. See rejection of claim 19. Note that Dietz et al. discloses that the location of each touch can be identified.

c. In regard to claim 29, Dietz et al. discloses that the first user contact point must be touched in order for the touch system to determine the position of a touch to the touch sensor. See rejection of claim 19. In order for the antennas of the touch sensor to transmit a position, the user contact point must be receiving such information. This is accomplished when the user sits in the receiver chair

and touches the touch sensor tabletop. Thus, the user contact point must be touched in order for the system to determine touch position on the touch sensor.

d. In regard to claim 24, see rejection of claim 19. Dietz et al. discloses a second user contact point separate from the touch sensor. This second user contact point is a second chair. Also see figure 1, depicting chairs 121 and 122 (user contact points 1 and 2).

e. In regard to claim 25, Dietz et al. discloses that the second contact point is driven with a second signal unique from the first signal. See rejection of claim 19. In particular, see column 2, lines 26-28, disclosing, "Receivers are capacitively coupled to different users, and configured to receive the uniquely identifiable signals." The receivers correspond to different user contact points, or chairs.

f. In regard to claim 26, Dietz et al. discloses that the information related to the touch includes identifying whether the first signal or second signal is transferred to the touch sensor. See rejections of claims 19 and 24-25. Note that the first and second signals correspond to first and second users in first and second chairs. See column 2, lines 28-30, disclosing, "When multiple users simultaneously touch any of the antennas, each touched antenna is associated with a particular user." Thus, information related to touch is associated with a particular user, and it is thus identified whether the first or second signal has been transferred.

g. In regard to claim 27, Dietz et al. discloses an invention similar to that which is disclosed in claim 27. See rejection of claim 19 for similarities. Also see column 3, lines 14-16, disclosing, "It should be understood that other conductive items can also be used to identify users, e.g. conductive floor mats, wristbands, belts, etc." Thus, Dietz discloses that the user contact point can be placed in varying locations. Dietz et al. does not disclose that the first user contact point and the touch sensor are mounted in a single touch system housing.

Phares discloses a system of multiple touch inputs, each mounted in a single touch system housing. See figures 1-3. Also see column 3, lines 8-11, disclosing, "This is achieved...by dividing a conductive cover sheet of a resistive touchscreen into electrically-isolated regions."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Dietz et al. by mounting the user contact point and touch sensor in a single touch system housing. One would have been motivated to make such a change based on the teaching of Phares that such a placement of touch portions maintains electrically-isolated regions. Also, such a modification would making the contact point integral with the touch sensor is obvious (In re Larson, 144 USPQ 347 (CCPA 1965)).

h. In regard to claim 28, Dietz et al. discloses that the first user contact point, or receiver, is driven with a guard signal that reduces noise in the system. See column 6, lines 49-53, disclosing that in order to maximize the signal to noise

ratio at the receivers, "The frequencies of the transmitted signals are kept low, e.g., under 1 MHz." It is understood that this constitutes a guard signal.

i. In regard to claim 31, see rejections of claims 24-25.

j. In regard to claim 32, Dietz et al. discloses an invention similar to that which is disclosed in claim 32. See rejection of claim 19 for similarities. Dietz et al. Does not disclose switches associated with the touch sensor and contact points, and thus does not disclose modes for those switches.

Phares discloses a touch system of three regions (see figure 3), each of the regions being associated with a switch. Also see column 5, lines 14-19, referring to the three conductive portions 20, 20A, and 20B of figure 3, disclosing, "Each would be connected (or disconnected) by an appropriate switch means 26 to the circuitry 14 so as to select any one, any combination, or all of the portions of the touchscreen covered by the conductive portions to be mad sensitive ("active") to a touch." Thus, Phares discloses all modes created by combinations of the three switches being on or off.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Dietz et al. by asociating the touch sensor and contact points with switches and to have various modes associated with the different combinations of opening and closing the switches. One would have been motivated to make such a change based on the teaching of Phares to use "appropriate switch means...so as to select any one, any combination, or all of the portions of the touchscreen".

k. In regard to claim 33, see rejection of claim 26.

l. In regard to claim 34, Dietz et al. discloses that the touch sensor is a capacitive touch sensor. See figure 4, depicting the table, or touch sensor, as a capacitance. See column 5, lines 9-11, disclosing, "C*table* 401 represents the capacitance between the user's finger and a transmitting antenna of the surface. Dietz et al. further discloses that a sensitivity of the touch sensor is enhanced by completing a circuit that comprises a user, the first contact point, and the touch sensor. See figure 4, which depicts this circuit. Also see column 5, lines 9-12, disclosing that a user is a part of this circuit, as "C*chair* 402 represents the capacitance between the user and a conducting chair." Note that the circuit does not include a ground.

4. In regard to claim 30, see rejection of claim 19.

5. In regard to claim 35, see previous rejection of claim 23 in Paper No. 8 or above

6. In regard to claim 36, Dietz et al. discloses an invention similar to that which is disclosed in claim 36. See rejection of claim 19 for similarities. Also see column 3, lines 14-16, disclosing, "It should be understood that other conductive items can also be used to identify users, e.g. conductive floor mats, wristbands, belts, etc." Thus, Dietz discloses that the user contact point can be placed in varying locations. Dietz et al. does not disclose that the first user contact point and the touch sensor are contained within the same housing.

Phares discloses a system of multiple touch inputs, each mounted in a single touch system housing. See figures 1-3. Also see column 3, lines 8-11, disclosing, "This

is achieved...by dividing a conductive cover sheet of a resistive touchscreen into electrically-isolated regions."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Dietz et al. by mounting the user contact point and touch sensor in a single touch system housing. One would have been motivated to make such a change based on the teaching of Phares that such a placement of touch portions maintains electrically-isolated regions. Also, such a modification making the contact point integral with the touch sensor is obvious (In re Larson, 144 USPQ 347 (CCPA 1965)).

(11) Response to Argument

1. Appellant argues on page 3 of the appeal brief, "Dietz alternatively discloses that the antenna array can be used to receive signals rather than transmit signals, but teaches that configurations where the antenna array transmits uniquely identifiable signals is superior (see Dietz col. 5, lines 44-55)." Thus, as admitted by the appellant, Dietz does disclose that the antenna array can be used to receive signals rather than transmit signals. Thus, it is irrelevant that Dietz discloses other embodiments and whether such embodiments are superior or inferior, since the features claimed are disclosed by Dietz.

2. Appellant argues, on pages 4-5, features of the claims which "Dietz does not teach or disclose". Further, appellant argues, on pages 5-6, features which "Phares does not disclose".

However, In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

3. Appellant argues on page 5 that the feature of "completing a circuit that comprises a user, the first contact point, and the touch sensor and that does not include a ground" is "not disclosed by Dietz. In the system of Dietz, a complete circuit caused by a touch input will always include a ground." However, not the completed circuit depicted in figure 4 of Dietz, which does not include a ground. Further, it is noted that figures 5-8 of the immediate application, which depict completed circuits that comprise a user, the first contact point, and the touch sensor, all include a ground. Thus, it is unclear what is meant by such a completed circuit that "does not include a ground". For the above reasons, it is believed that the rejections should be sustained.

4. Appellant further argues on page 5, in regard to claim 36, that "Dietz does not teach or disclose that the user contact point and the touch sensor are or can be mounted in the same housing." However, see the rejection of claim 36, above, and note that such a feature is disclosed and taught by Phares.

Respectfully submitted,

LEL
February 13, 2005

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